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BIOS SETUP

Introduction

This manual discussed Award™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS™ installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel Pentium ® 4 processor input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the Award BIOS™, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. This AWARD BIOS can manage power to the hard disk drives and video monitors.

ACPI Support

Award ACPI BIOS support Version 1.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR DRAM (Double Data Rate Synchronous DRAM) are supported.

Supported CPUs

This AWARD BIOS supports the Intel Pentium ® 4 CPU.

Using Setup

In general, you use the arrow keys to highlight items, press:

<Enter> to select,

<PgUp> and **<PgDn>** to change entries,

<F1> for help,

<Esc> to quit.

The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

1. MAIN MENU

Once you enter Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

WARNING

The information about BIOS defaults on this manual (**Figure 1,2,3,4,5,6,7,8,9**) is just only for reference; please refer to the BIOS installed on board, for update information.

1.1 STANDARD CMOS FEATURES

This submenu contains industry standard configurable options.

1.2 ADVANCED BIOS FEATURES

This submenu allows you to configure enhanced features of the BIOS.

1.3 ADVANCED CHIPSET FEATURES

This submenu allows you to configure special chipset features.

1.4 INTEGRATED PERIPHERALS

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

1.5 POWER MANAGEMENT SETUP

This submenu allows you to configure the power management features.

1.6 PNP/PCI CONFIGURATIONS

This submenu allows you to configure certain "Plug and Play" and PCI options.

1.7 PC HEALTH STATUS

This submenu allows you to monitor the hardware of your system.

1.8 FREQUENCY CONTROL

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock.

(However, this function is strongly recommended not to use. Not properly change the voltage and clock may cause CPU or M/B damage!)

1.9 LOAD OPTIMIZED DEFAULTS

This selection allows you to reload the BIOS when the system is having problems particularly with the boot sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

1.10 SET SUPERVISOR PASSWORD

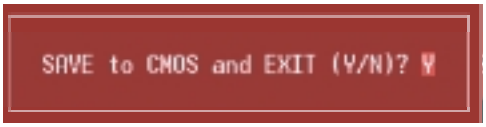
Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.

1.11 SET USER PASSWORD

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

1.12 SAVE & EXIT SETUP

Save all configuration changes to CMOS(memory) and exit setup.
Confirmation message will be displayed before proceeding.



1.13 EXIT WITHOUT SAVING

Abandon all changes made during the current session and exit setup.
Confirmation message will be displayed before proceeding.

1.14 UPGRADE BIOS

This submenu allows you to upgrade bios.

2. STANDARD CMOS FEATURES

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the<PgUp> or <PgDn> keys to select the value you want in each item.

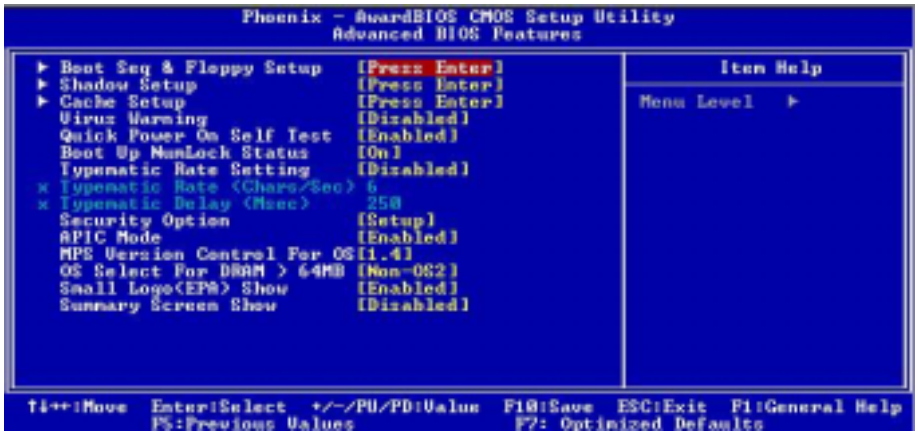
Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Sep 23 2004
Time (hh:mm:ss) 11 : 6 : 51
IDE Channel 0 Master
IDE Channel 0 Slave
IDE Channel 1 Master
IDE Channel 1 Slave
Drive A [1.44M, 3.5 in.]
Drive B [None]
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 65472K
Total Memory 1024K
Item Help
Menu Level ▶
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

2.1 MAIN MENU SELECTIONS

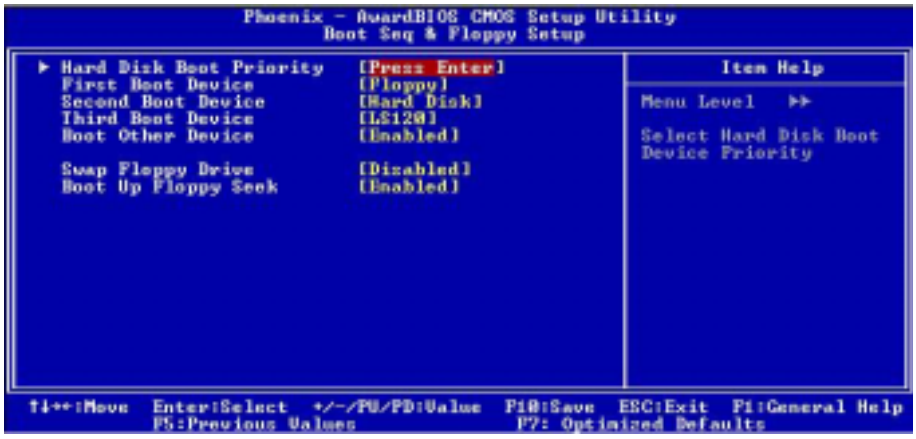
This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

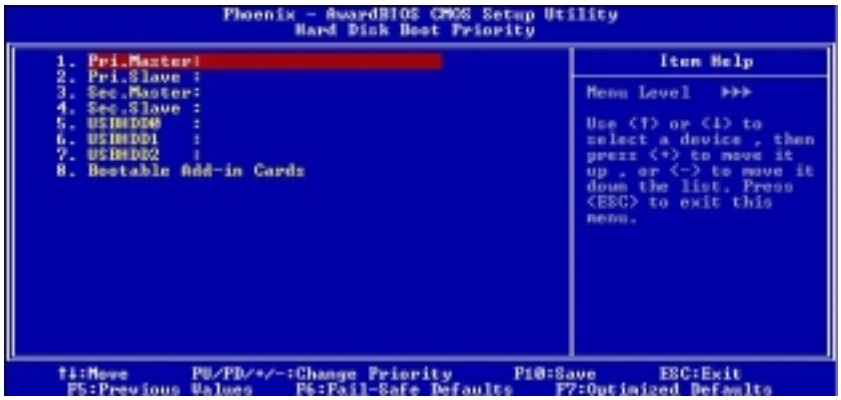
3. ADVANCED BIOS FEATURES


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
▶ Boot Seq & Floppy Setup [Press Enter]
▶ Shadow Setup [Press Enter]
▶ Cache Setup [Press Enter]
Virus Warning [Disabled]
Quick Power On Self Test [Enabled]
Boot Up NumLock Status [On]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
MPS Version Control For OS [1.4]
OS Select For DRAM > 64MB [Non-OS2]
Small Logo(EPA) Show [Enabled]
Summary Screen Show [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

3.1 BOOT SEQ & FLOPPY SETUP


Phoenix - AwardBIOS CMOS Setup Utility
Boot Seq & Floppy Setup
▶ Hard Disk Boot Priority [Press Enter]
First Boot Device [Floppy]
Second Boot Device [Hard Disk]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Item Help
Menu Level ▶▶
Select Hard Disk Boot Device Priority
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

3.1.1 Hard Disk Boot Priority


Phoenix - AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority
1. Pri.Master:
2. Pri.Slave :
3. Sec.Master:
4. Sec.Slave :
5. USBHDD0 :
6. USBHDD1 :
7. USBHDD2 :
8. Bootable Add-in Cards
Item Help
Menu Level ▸▸▸
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓:Move PU/PD/+/-:Change Priority F10:Save ESC:Exit
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

These BIOS attempt to load the operating system from the device in the sequence selected in these items.

The Choices:

Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, HPT370, Disabled, Enabled.

3.1.2 First/Second/Third/Boot Other Device

These BIOS attempt to load the operating system from the device in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, HPT370, Disabled, Enabled.

3.3.2 Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

The Choices: Disabled (default), Enabled.

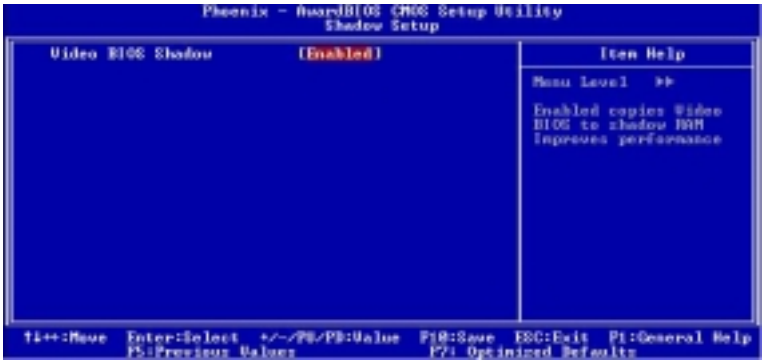
3.3.3 Boot Up Floppy Seek

Enabling this option will test the floppy drives to determine if they have 40 or 80 tracks. Disabling this option reduces the time it takes to boot-up.

The Choices: Disabled, **Enabled** (default).

3.2 SHADOW SETUP

3.2.1 Video BIOS Setup

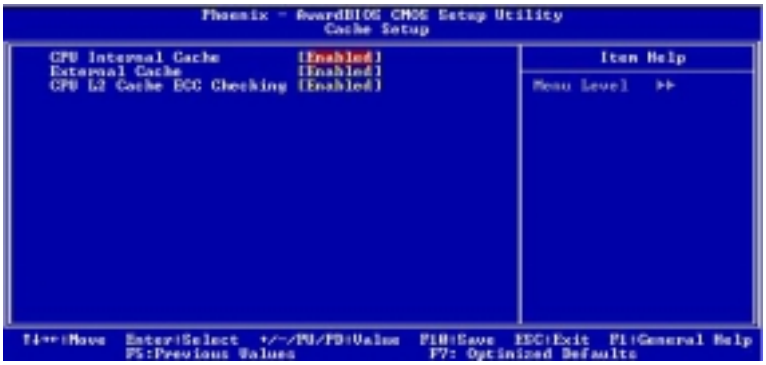

Phoenix - AwardBIOS CMOS Setup Utility
Shadow Setup
Video BIOS Shadow [Enabled]
Item Help
Menu Level ▸▸
Enabled copies Video BIOS to shadow RAM
Improves performance
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Determines whether video BIOS will be copied to RAM for faster execution.

Enabled (default) Optional ROM is enabled.

Disabled Optional ROM is disabled.

3.3 CACHE SETUP


Phoenix - AwardBIOS CMOS Setup Utility
Cache Setup
CPU Internal Cache [Enabled]
External Cache [Enabled]
CPU L2 Cache ECC Checking [Enabled]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default) Enable cache.

Disabled Disable cache.

3.4 VIRUS WARNING

This option allows you to choose the Virus Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Enabled	Virus protection is activated.
Disabled (default)	Virus protection is disabled.

3.5 QUICK POWER ON SELF TEST

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

Disabled	Normal POST.
Enabled (default)	Enable quick POST.

3.6 GATE A20 OPTION

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls Gate A20.
Fast (default)	Lets chipset control Gate A20.

3.7 TYPEMATIC RATE SETTING

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

The Choices: Disabled (default), Enabled.

3.7.1 Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

The Choices: 6 (default)**,** 8,10,12,15,20,24,30.

3.7.2 Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The Choices: 250 (default)**,** 500, 750, 1000.

3.8 BOOT UP NUMLOCK STATUS

Selects the NumLock. State after power on.

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

3.9 SECURITY OPTION

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

System	A password is required for the system to boot and is also required to access the Setup Utility.
Setup (default)	A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

3.10 APIC MODE

Selecting Enabled enables ACPI device mode reporting from the BIOS to the operating system.

The Choices: Enabled (default), Disabled.

3.11 MPS VERSION CONTROL FOR OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.

Select version supported by the operation system running on this computer.

The Choices: 1.4 (default), 1.1.

3.12 OS SELECT FOR DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (default), OS2.

3.13 SMALL LOGO (EPA) SHOW

This item allows you to select whether the "Small Logo" shows.

Enabled (default)	"Small Logo" shows when system boots up.
Disabled	No "Small Logo" shows when system boots up.

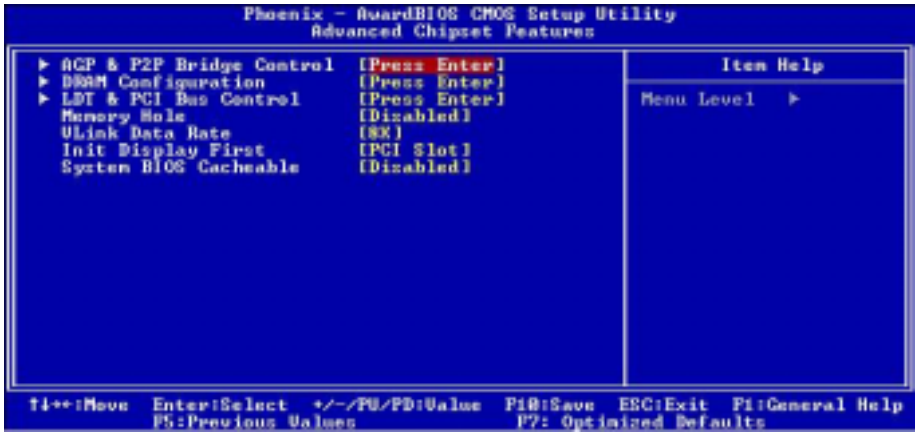
3.14 SUMMARY SCREEN SHOW

This item allows you to enable/disable the summary screen. Summary screen means system configuration and PCI device listing.

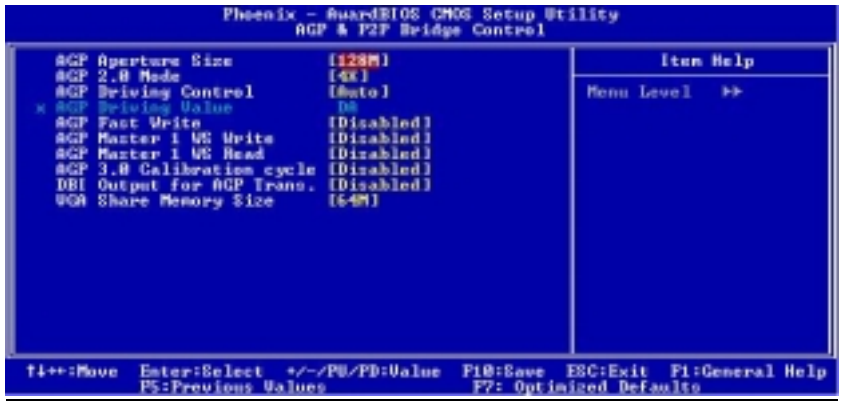
The choices: Enabled, **Disabled** (default).

4. ADVANCED CHIPSET FEATURES

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
AGP & P2P Bridge Control [Press Enter]
DRAM Configuration [Press Enter]
LDT & PCI Bus Control [Press Enter]
Memory Hole [Disabled]
VLink Data Rate [8X]
Init Display First [PCI Slot]
System BIOS Cacheable [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

4.1 AGP & P2P BRIDGE CONTROL


Phoenix - AwardBIOS CMOS Setup Utility
AGP & P2P Bridge Control
AGP Aperture Size [128M]
AGP 2.0 Mode [4X]
AGP Driving Control [Auto]
x AGP Driving Value DB
AGP Fast Write [Disabled]
AGP Master 1 WS Write [Disabled]
AGP Master 1 WS Read [Disabled]
AGP 3.0 Calibration cycle [Disabled]
DBI Output for AGP Trans. [Disabled]
VGA Share Memory Size [64M]
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

If you highlight the literal "Press Enter" next to the "AGP & P2P Bridge Control" label and then press the enter key, it will take you a submenu with the following options:

4.1.1 AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

The Choices: 64M, 256M, **128M** (Default), 32M, 16M, 8M, 4M.

4.1.2 AGP 2.0 Mode

This item allows you to select the AGP Mode.

The Choices: 4X (default), 2X, 1X.

4.1.3 AGP Driving Control

By choosing "Auto" the system BIOS will the AGP output Buffer Drive strength P Ctrl by AGP Card. By choosing "Manual", it allows user to set AGP output Buffer Drive strength P Ctrl by manual.

The Choices: Auto (default), Manual.

AGP Driving Value

While AGP driving control item set to "Manual", it allows user to set AGP driving.

The Choices: DA (default).

4.1.4 AGP Fast Write

The Choices: Enabled, **Disabled** (default).

4.1.5 AGP Master 1 WS Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one-wait states.

The Choices: Disabled (default), Enabled.

4.1.6 AGP Master 1 WS Read

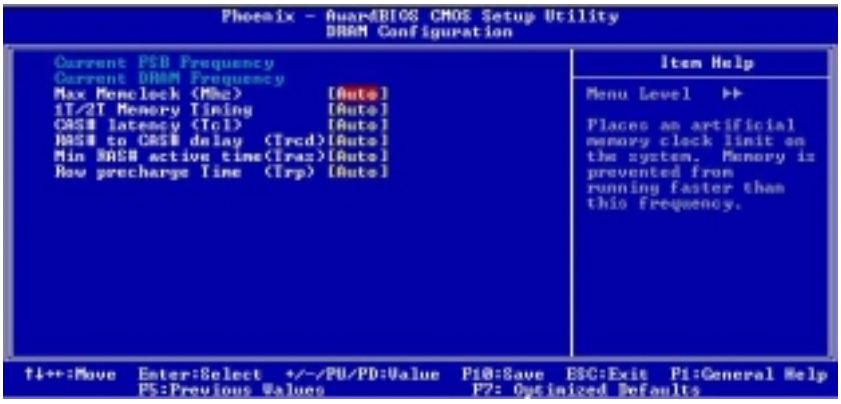
When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one-wait states.

The Choices: Disabled (default), Enabled.

4.1.7 AGP 3.0 Calibration cycle

The Choices: Disabled (default), Enabled.

4.2 DRAM CONFIGURATION


Phoenix - AwardBIOS CMOS Setup Utility
DRAM Configuration
Current FSB Frequency
Current DRAM Frequency
Max Memclock (Mhz) [Auto]
1T/2T Memory Timing [Auto]
CAS# latency (Tcl) [Auto]
RAS# to CAS# delay (Trcd) [Auto]
Min RAS# active time(Tras) [Auto]
Row precharge Time (Trp) [Auto]
Item Help
Menu Level ▸▸
Places an artificial memory clock limit on the system. Memory is prevented from running faster than this frequency.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

4.2.1 Max Memclock (MHz)

Places an artifical memory clock limit on the system. Memory is prevented from running faster than this frequency.

The Choices: **200** (Default), 166, 133, and 100.

4.2.2 CAS# Latency

This field specify the cas# latency, i.e. cas# to read data valid.

The Choices: CL=2.5 (Default), CL=3.0, CL=2.0

4.2.3 RAS# to CAS# Delay (tRCD)

This field specifies the RAS# to CAS# Delay to read/ write command to the same bank. Typically -20 Nsec.

The Choices: 3 BUS CLOCKS (Default), 2 BUS CLOCKS, 4 BUS CLOCKS, 5 BUS CLOCKS, 6 BUS CLOCKS, 7 BUS CLOCKS

4.2.4 Min RAS# active time (tRAS)

This field specifies the minimum RAS# active time. Typically -45-60 Nsec.

The Choices: 6 BUS CLOCKS (Default), 13 BUS CLOCKS, 14 BUS CLOCKS, 15 BUS CLOCKS.

4.2.5 Row Precharge Time (tRP)

This field specifies the Row precharge Time. Precharge to Active or Auto-Refresh of the same bank. Typically 20-24 Nsec.

The Choices: **3 BUS CLOCKS** (Default), 2 BUS CLOCKS, 4 BUS CLOCKS, 5 BUS CLOCKS, 6 BUS CLOCKS.

4.3 LDT & PCI BUS CONTROL

Phoenix - AwardBIOS CMOS Setup Utility
LDT & PCI Bus Control
Upstream LDT Bus Width [16 bit]
Downstream LDT Bus Width [16 bit]
LDT Bus Frequency [800 MHz]
PCI1 Master 0 WS Write [Enabled]
PCI2 Master 0 WS Write [Enabled]
PCI1 Post Write [Enabled]
PCI2 Post Write [Enabled]
PCI Delay Transaction [Enabled]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

If you highlight the literal "Press Enter" next to the "LDT & PCI Bus Control" label and then press the enter key, it will take you a submenu with the following options:

4.3.1 Upstream LDT Bus Width

The Choices: 8 bit, **16 bit** (Default).

4.3.2 Downstream LDT Bus Width

The Choices: 8 bit, **16 bit** (Default).

4.3.3 LDT Bus Frequency

The Choices: **800MHz** (Default), Auto, 600MHz, 400MHz, 200MHz.

4.3.4 PCI1 Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

The Choices: **Enabled** (default), Disabled.

4.3.5 PCI2 Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

The Choices: **Enabled** (default), Disabled.

4.3.6 PCI1 Post Write

The Choices: **Enabled** (default), Disabled.

4.3.7 PCI2 Post Write

The Choices: **Enabled** (default), Disabled.

4.3.8 PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification.

The Choices: **Disabled** (Default), Enabled.

4.4 MEMORY HOLE

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. The user information of peripherals that need to use this area of system memory usually2 discussed their memory requirements.

The Choices: Disabled (default), Enabled.

4.5 INIT DISPLAY FIRST

With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or an AGP Slot.

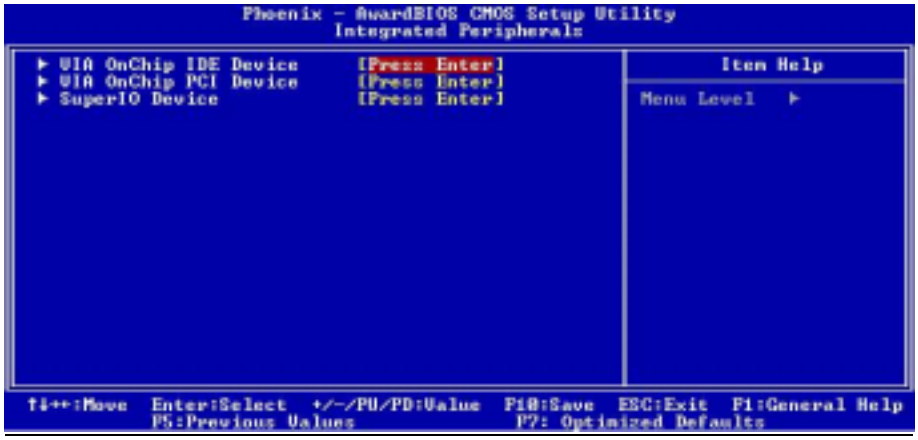
The Choices: PCI Slot (default), AGP.

4.6 SYSTEM BIOS CACHEABLE

Selecting the "Enabled" option allows caching of the system BIOS ROM at F0000h-FFFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.

The Choices: Enabled (default), Disabled.

5. INTEGRATED PERIPHERALS


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
VIA OnChip IDE Device [Press Enter]
VIA OnChip PCI Device [Press Enter]
SuperIO Device [Press Enter]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

5.1 VIA ONCHIP IDE DEVICE

Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device
OnChip SATA [Enabled]
SATA Mode [RAID]
IDE DMA transfer access [Enabled]
OnChip IDE Channel0 [Enabled]
OnChip IDE Channel1 [Enabled]
IDE Prefetch Mode [Enabled]
Primary Master PIO [Auto]
Primary Slave PIO [Auto]
Secondary Master PIO [Auto]
Secondary Slave PIO [Auto]
Primary Master UDMA [Auto]
Primary Slave UDMA [Auto]
Secondary Master UDMA [Auto]
Secondary Slave UDMA [Auto]
IDE HDD Block Mode [Enabled]
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

If you highlight the literal "Press Enter" next to the "VIA OnChip IDE Device" label and then press the enter key, it will take you a submenu with the following options:

5.1.1 On-chip IDE Channel 0/1

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

The Choices: **Enabled** (default), Disabled.

5.1.2 IDE Prefetch Mode

The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access. If the interface does not support prefetching. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".

The Choices: **Enabled** (default), Disabled.

5.1.3 Primary / Secondary /Master / Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: **Auto** (default), Mode0, Mode1, Mode2, Mode3, Mode4.

5.1.4 Primary / Secondary /Master / Slave UDMA

Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.

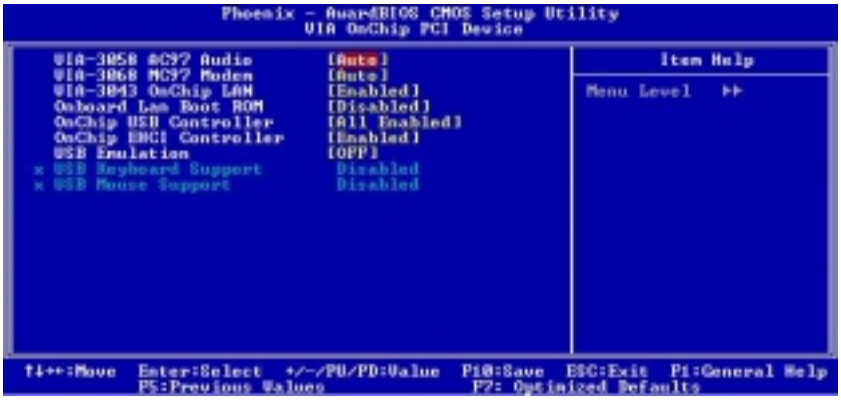
The Choices: **Auto** (default), Disabled.

5.1.5 IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.

The Choices: **Enabled** (default), Disabled.

5.2 VIA ONCHIP PCI DEVICE


Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device
VIA-3058 AC97 Audio [Auto]
VIA-3068 MC97 Modem [Auto]
VIA-3043 OnChip LAN [Enabled]
Onboard Lan Boot ROM [Disabled]
OnChip USB Controller [All Enabled]
OnChip EHCI Controller [Enabled]
USB Emulation [OFF]
x USB Keyboard Support Disabled
x USB Mouse Support Disabled
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

If you highlight the literal "Press Enter" next to the "VIA OnChip PCI Device" label and then press the enter key, it will take you a submenu with the following options:

5.2.1 VIA-3058 AC97 Audio

This option allows you to control the onboard AC97 audio.

The Choices: **Auto** (default), Disabled.

5.2.2 On-chip USB Controller

This option should be enabled if your system has a USB installed on the system board. You will need to disable this feature if you add a higher performance controller.

The Choices: **All Enabled** (default), All Disabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port, 1 USB Port, 2 USB Port, 3 USB Port.

5.2.3 On-chip EHCI Controller

This item allows you to enable or disable the on-chip EHCI controller.

The Choices: **Enabled** (Default), Disabled.

5.2.4 USB Device Legacy Support

This item allows you to support the USB device legacy.

The Choices: **Disabled** (Default), Enabled.

5.2.5 USB Mouse Support

Enables support for USB attached mouse.

The Choices: **Disabled** (default), Enabled.

5.3 SUPER IO DEVICE

Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device
Onboard FDC Controller [Enabled]
Onboard Serial Port [3F8/IRQ4]
UART Mode Select [Normal]
RxD , TxD Active [Hi,Lo]
IR Transmission Delay [Enabled]
UR2 Duplex Mode [Half]
Use IR Pins [IR-Rx2Tx2]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
EPP Mode Select [EPP1.7]
ECP Mode Use DMA [3]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Press Enter to configure the Super I/O Device.

5.3.1 Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If install and FDC or the system has no floppy drive, select Disabled in this field.

The Choices: **Enabled** (default), Disabled.

5.3.2 Onboard Serial Port

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: **3F8/IRQ4** (default), Disabled, Auto, 2F8/IRQ3,

3E8/IRQ4, 2E8/IRQ3.

5.3.3 UART Mode Select

This item allows you to determine which Infrared (IR) function of onboard I/O chip.

The Choices: **Normal** (default), ASKIR, IrDA, SCR .

5.3.4 RxD, TxD Active

This item allows you to determine which Infrared (IR) function of onboard I/O chip.

The Choices: **Hi / Lo** (default), Hi / Hi, Lo / Hi, Lo / Lo.

5.3.5 IR Transmission Delay

This item allows you to enable/disable IR transmission delay.

The Choices: **Enabled** (default), Disabled.

5.3.6 UR2 Duplex Mode

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.

The Choices: **Half** (default), Full.

5.3.7 Use IR Pins

Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals.

The Choices: **IR-Rx2Tx2** (default), RxD2, TxD2.

5.3.8 Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

The Choices: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

5.3.9 Parallel Port Mode

The default value is SPP.

The Choices:

SPP (Default)	Using Parallel Port as Standard Printer Port.
EPP	Using Parallel Port as Enhanced Parallel Port.
ECP	Using Parallel Port as Extended Capabilities Port.
ECP+EPP	Using Parallel Port as ECP & EPP mode.

5.3.10 EPP Mode Select

Select EPP port type 1.7 or 1.9.

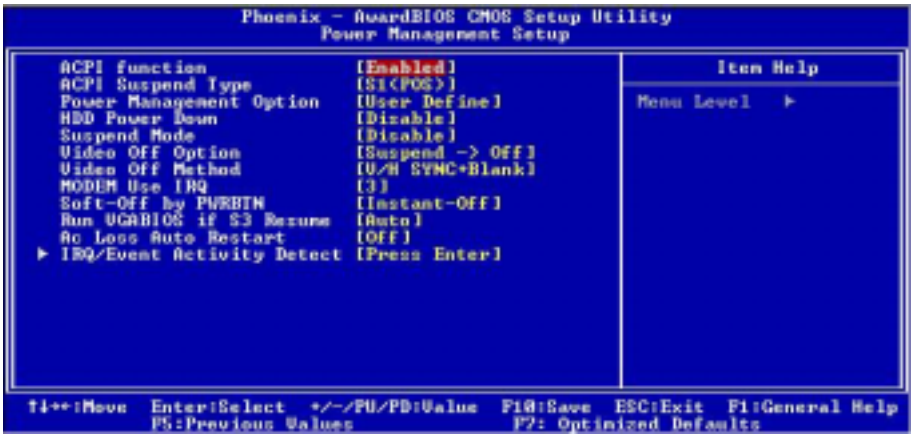
The Choices: **EPP 1.7**(default), EPP1.9.

5.3.11 ECP Mode Use DMA

The Choices: **3** (default), 1.

6. POWER MANAGEMENT SETUP

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management Option [User Define]
HDD Power Down [Disable]
Suspend Mode [Disable]
Video Off Option [Suspend -> Off]
Video Off Method [V/H SYNC+Blank]
MODEM Use IRQ [3]
Soft-Off by PWRBTN [Instant-Off]
Run VGABIOS if S3 Resume [Auto]
Ac Loss Auto Restart [OFF]
IRQ/Event Activity Detect [Press Enter]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

6.1 ACPI FUNCTION

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: **Enabled** (default), Disabled.

6.2 ACPI SUSPEND TYPE

The item allows you to select the suspend type under the ACPI operating system.

The Choices: S1 (POS) (default)		Power on Suspend
	S3 (STR)	Suspend to RAM
	S1 + S3	POS+STR

6.3 POWER MANAGEMENT OPTION

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. HDD Power Down.
2. Doze Mode.
3. Suspend Mode.

There are four options of Power Management, three of which have fixed mode settings

Min. Saving

Minimum power management.

Doze Mode = 1 hr.

Standby Mode = 1 hr

Suspend Mode = 1 hr.

HDD Power Down = 15 min

Max Saving

Maximum power management only available for sl CPU's.

Doze Mode = 1 min

Standby Mode = 1 min.

Suspend Mode = 1 min.

HDD Power Down = 1 min.

User Defined (default)

Allows you to set each mode individually.

When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

6.4 HDD POWER MODE

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

The Choices: **Disabled** (default), 1Min, 2Min, 3Min, 4Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min, 15Min.

6.5 SUSPEND MODE

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

The Choices: **Disabled** (default), 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, 1Hour.

6.6 VIDEO OFF OPTION

This field determines when to activate the video off feature for monitor power management.

The Choices: **Suspend→Off** (default), Always on.

6.7 VIDEO OFF METHOD

This option determines the manner in which the monitor is goes blank.

V/H SYNC+Blank (default)

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS

Initial display power management signaling.

6.8 MODEM USE IRQ

This determines the IRQ, which can be applied in MODEM use.

The Choices: **3** (default)/ 4 / 5 / 7 / 9 / 10 / 11 / NA

6.9 SOFT-OFF BY PWR-BTN

Pressing the power button for more than 4 seconds forces the system to enter the

Soft-Off state when the system has "hung."

The Choices: Delay 4 Sec, **Instant-Off** (default).

6.10 RUN VGABIOS IF S3 RESUME

Choosing Enabled will make BIOS run VGA BIOS to initialize the VGA card when system wakes up from S3 state. The system time is shortened if you disable the function, but system will need AGP driver to initialize the card. So, if the AGP driver of the VGA card does not support the initialization feature, the display may work abnormally or not function after S3.

The Choices: **Auto** (default), Yes, No.

6.11 AC LOSS AUTO RESTART

This field determines the action the system will automatically take when power is restored to a system that had lost power previously without any subsequent manual intervention. There are 3 sources that provide current to the CMOS area that retains these Power-On instructions; the motherboard battery (3V), the Power Supply (5VSB), and the Power Supply (3.3V). While AC is not supplying power, the motherboard uses the motherboard battery (3V). If AC power is supplied and the Power Supply is not turned on, 5VSB from the Power Supply is used. When the Power Supply is eventually turned on 3.3V from the Power Supply will be used.

There are 3 options: "Former-Sts", "On", "Off".

"Off" (default)	Means always set CMOS to the "Off" status when AC power is lost.
"On"	Means always set CMOS to the "On" status when AC power is lost
"Former-Sts"	Means to maintain the last status of the CMOS when AC power is lost.

For example: If set to "Former-Sts" and AC power is lost when system is

live, then after AC power is restored, the system will automatically power on. If AC power is lost when system is not live, system will remain powered off.

6.12 IRQ/EVENT ACTIVITY DETECT

Phoenix - AwardBIOS CMOS Setup Utility
IRQ/Event Activity Detect
PS2KB Wakeup Select [Hot key]
PS2KB Wakeup from S3/S4/S5 [Disable]
PS2MS Wakeup from S3/S4/S5 [Disabled]
USB Resume from S3 [Disabled]
VGA [OFF]
LPT & COM [LPT/COM]
HDD & FDD [ON]
PCI Master [OFF]
PowerOn by PCI Card [Disabled]
Modem Ring Resume [Disabled]
RTC Alarm Resume [Disabled]
x Date (of Month) 0
x Resume Time (hh:mm:ss) 0 : 0 : 0
► IRQs Activity Monitoring [Press Enter]
Item Help
Menu Level ►►
When Select Password, Please press ENTER key to change Password Max 8 numbers.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

If you highlight the literal "Press Enter" next to the "IRQ/Event Activity Detect" label and then press the enter key, it will take you a submenu with the following options:

6.12.1 PS2KB Wakeup Select

When select Password, please press Enter key to change password with a maximum of 8 characters.

The Choices: **Hot Key** (default).

6.12.2 PS2KB Wakeup from S3/ S4/ S5

This item allows you to wake up from S3/ S4/ S5 with PS2 keyboard.

The Choices: **Disabled** (default), Ctrl+F1, Ctrl+F2. Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any Key.

6.12.3 PS2MS Wakeup from S3/ S4/ S5

This item allows you to wake up from S3/ S4/ S5 with PS2 mouse.

The Choices: **Disabled** (default).

6.12.4 USB Resume from S3

This item allows you to enable or disabled USB resume from S3.

The Choices: Disabled (Default), Enabled.

6.12.5 VGA

When set to On, any event occurring at a VGA Port will awaken a system which has been powered down.

The Choices: **Off** (default), On.

6.12.6 LPT & COM

When this option is set to On, any event occurring at a COM (serial)/LPT (printer) port will awaken a system which has been powered down.

The Choices: **LPT/COM** (default), COM, LPT, NONE.

6.12.7 HDD & FDD

When this option is set to On, any event occurring on a hard drive or a floppy drive will awaken a system which has been powered down.

The Choices: **On** (default), Off.

6.12.8 PCI Master

When set to On, you need a LAN add-on card which supports the power function. It should also support the wake-up on LAN jump.

The Choices: **Off** (default), On.

6.12.9 Power On by PCI Card

When you select Enabled, a PME signal from PCI card returns the system to Full ON state.

The Choices: **Disabled** (default), Enabled.

6.12.10 Modem Ring Resume

The Choices: Disabled (Default), Enabled.

6.12.11 RTC Alarm Resume

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: Enabled, Disabled (default).

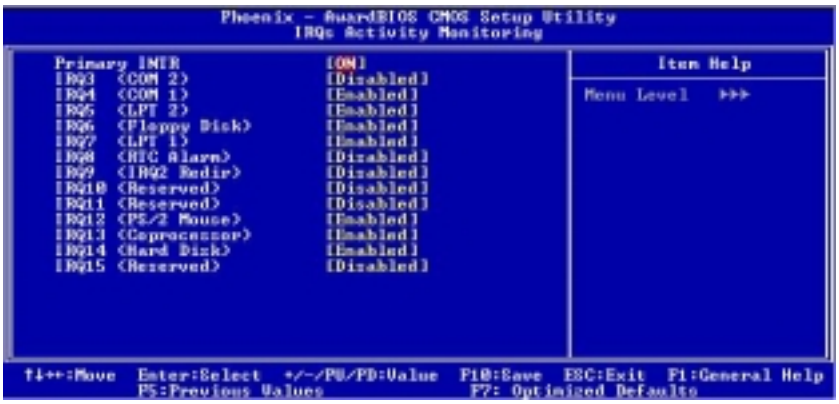
6.12.12 Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

6.12.13 Resume Time (hh:mm:ss)

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

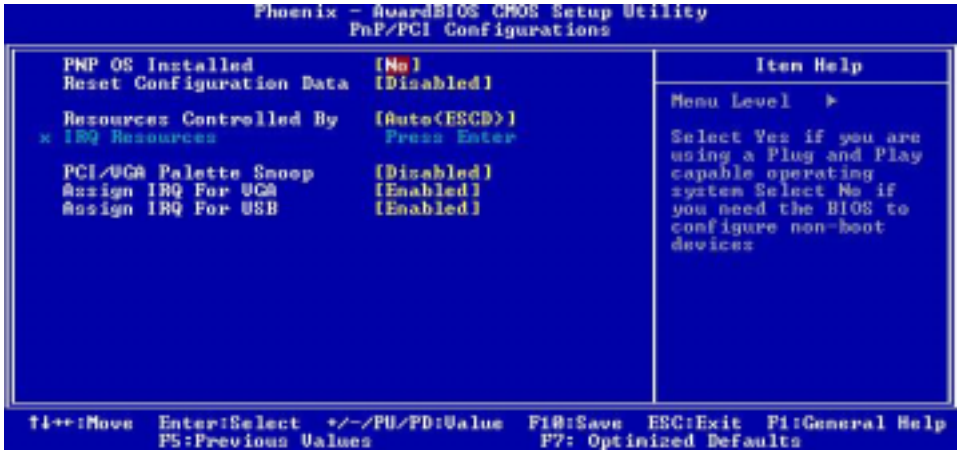
6.12.14 IRQs Activity Monitoring



Press Enter to access another sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

7. PNP/PCI CONFIGURATIONS

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system that allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
PNP OS Installed [No]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For VGA [Enabled]
Assign IRQ For USB [Enabled]
Item Help
Menu Level ▶
Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

7.1 PNP OS INSTALLED

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: **No** (default), Yes.

7.2 RESET CONFIGURATION DATA

The system BIOS supports the PnP feature that requires the system to record which resources are assigned and protects resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: **Disabled** (default), Enabled.

7.3 RESOURCES CONTROLLED BY

By Choosing "**Auto (ESCD)**" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

7.4 IRQ RESOURCES

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

7.5 PCI / VGA PALETTE SNOOP

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the

palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

Disabled(default) Disables the function.

Enabled Enables the function.

7.6 ASSIGN IRQ FOR VGA

This item allows the users to choose which IRQ to assign for the VGA.

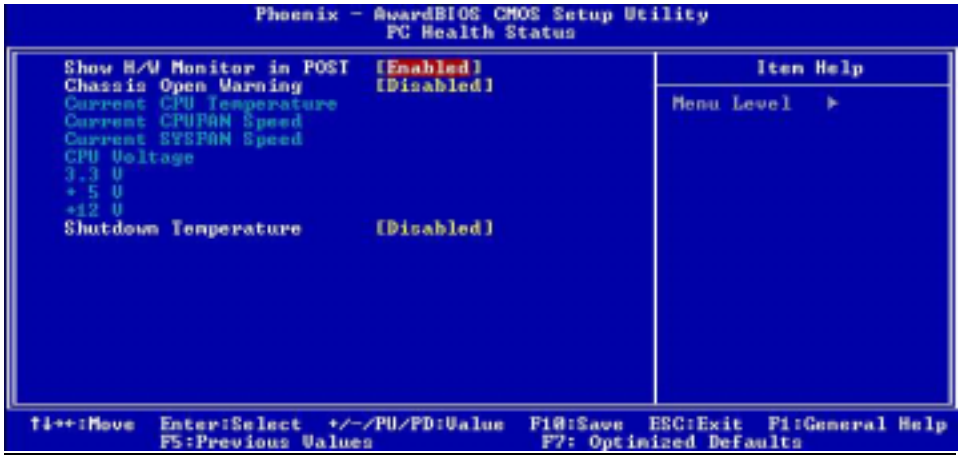
The Choices: **Enabled** (default), Disabled.

7.7 ASSIGN IRQ FOR USB

This item allows the users to choose which IRQ to assign for the USB.

The Choices: **Enabled** (default), Disabled.

8. PC HEALTH STATUS



8.1 SHOW H/W MONITOR IN POST

If you computer contain a monitoring system, it will show PC health status during POST stage. The item offers several delay time to select you want.

The Choices: **Enabled** (default), Disabled.

8.2 CHASSIS OPEN WARNING

Enable this item to give case open warning message.

8.3 CURRENT CPU TEMPPERATURE

This field displays the current temperature of CPU.

8.4 CURRENT CPU FAN SPEED

This field displays the current speed of CPU fan.

8.5 CURRENT SYS FAN SPEED

This field displays the current speed SYSTEM fan.

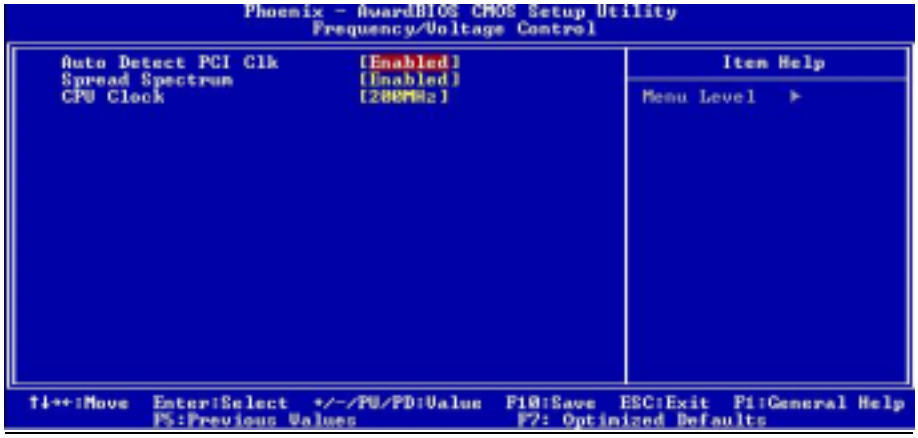
8.6 CPU VOLTAGE

Detect the system's voltage status automatically.

8.7 SHUTDOWN TEMPERATURE

This item allows you to set to which temperature the PC will shutdown automatically.

9. FREQUENCY CONTROL


Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
Auto Detect PCI Clk [Enabled]
Spread Spectrum [Enabled]
CPU Clock [200MHz]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

9.1 AUTO DETECT PCI CLK

This item allows you to enable / disable auto Detect PCI Clock.

The Choices: Enabled (default), Disabled.

9.2 SPREAD SPECTRUM

This item allows you to enable/disable the Spread Spectrum function.

The Choices: Enabled (default), Disabled

9.3 CPU CLOCK

This item allows you to select CPU Clock, and CPU over clocking.

Special Notice:

If unfortunately, the system's frequency that you are selected is not functioning, there are two methods of booting-up the system.

Method 1:

Clear the COMS data by setting the JCOMS1 ((2-3) closed)) as "ON" status. All the CMOS data will be loaded as defaults setting.

Method 2:

Press the <Insert> key and Power button simultaneously, after that keep-on pressing the <Insert> key until the power-on screen showed. This action will boot-up the system according to FSB of the processor.

It's strongly recommended to set CPU Vcore and clock in default setting. If the CPU Vcore and clock are not in default setting, it may cause CPU or M/B damage.

9/24/2004